

Technical specification of seeding particles for Laser Doppler Velocimetry (LDV)

- type: silver coated solid glass spheres –

Product Name	Product Designation
Silver Coated Solid Glass Spheres	S2429S, S3000S, S3000S2M, S3000S2E, S3000S3M, S3000S3MM, S3000S3E, S5000S2, S5000S3, S3000S4, S3000S5
Silver Coated Copper Granules	SC325P17, SC400P18
Silver Coated Aluminium Particles	SA270S20
Silver Coated Hollow Glass Spheres	SH230S33, SH400S33, SH400S20
Silver Coated Inorganic Flakes	SM140F65
Silver Coated Glass Fibres	SF82TF8
Silver Coated Copper flakes	SC230F8, SC140F19
Silver Coated Copper Needles	SC500P18
Aluminium Compatible Particles	PI-1040, PI-2040

The above range has been developed to satisfy general and specific market needs in conductive and shielding applications. These products offer a cost effective and lightweight alternative to pure silver particles, and provide other specific benefits such as:-

Benefit	Product Designation	S2429, S3000 & S5000 Series	SC325 -P17	SA270 -S20	SH230 S-33 & SH400 Series	SM325-F55	SF82TF8	SC230 F8 & SC500 P18	PI-1040, PI-2040
Lightweight Reinforcement					✓		✓		
High Aspect Ratio						✓	✓	✓	
Chemically Inert Substrate	✓				✓		✓		
Minimum Surface To Volume Ratio	✓				✓				
Controllable Particle Size Distribution	✓		✓	✓	✓				✓
Optimum & Predictable Packing Characteristics	✓				✓				
Enhanced Dispersion	✓				✓				
Low Load Requirements						✓	✓		
Thin Coat Applications	✓							✓	
High Electrical & Thermal Conductivity	✓	✓	✓	✓		✓		✓	
Virtual Elimination Of Galvanic Corrosion In Salt Spray Environments									✓
Maintain Conductivity In Oxidised State	✓				✓	✓	✓		
Stable In High Temperature Environment	✓	✓			✓	✓	✓		✓
Excellent Thermal Properties			✓		✓				
Low Density Reduced Weight	✓				✓		✓		

Product Application Areas

Product Name	Product Designation	Adhesives (Epoxyes)	Caulks	Coatings	Elastomers (gaskets&seals)	Greases & Lubricants	Inks	Pastes
Silver Coated Solid Glass Spheres	S2429S	✓	✓	✓	✓	✓		✓
Silver Coated Solid Glass Spheres	S3000S, S3000S2M, S3000S3M, S3000S3E, S3000S4, S3000S5	✓	✓	✓	✓	✓	✓	✓
As above	S5000S2, S5000S3	✓	✓	✓	✓	✓	✓	✓
Silver Coated Copper Granules	SC325P17	✓	✓		✓	✓		✓
Silver Coated Aluminium Particles	SA270S20	✓	✓		✓	✓		✓
Silver Coated Hollow Glass Spheres	SH230S33, SH400S33 SH400S20	✓		✓	✓		✓	✓
Silver Coated Inorganic Flakes	SM140F65	✓	✓	✓	✓	✓	✓	✓
Silver Coated Glass Fibres	SF82TF8	✓		✓	✓		✓	✓
Silver Coated Copper flakes	SC230F8, SC140F19	✓		✓		✓	✓	✓
Silver Coated Copper Needles	SC500P18	✓	✓	✓		✓	✓	✓
Aluminium Compatible Particles	PI-1040, PI-2040	✓	✓	✓	✓	✓		

Product Range Designations

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Product Range Characteristics

Product Designation	Core Material	Shape	Silver Content (%)	Mean Particle Size (μ)	Typical Particle Size Distribution (μ)	Particle Density (g/cc)	Tap Density (g/cc)	Powder Resistivity (Ohm.cm)
S2429S	Glass	Spherical	4 \pm 0.5	92 mean \pm 10	60 - 120	2.5		N/A
S3000S	Glass	Spherical	4 \pm 0.5	43 mean \pm 5	20 - 60	2.5		N/A
S3000S2M	Glass	Spherical	8 \pm 0.5	42 mean \pm 4	20 - 60	2.6		N/A
S3000S3M	Glass	Spherical	12 \pm 0.5	43 mean \pm 4	20 - 60	2.6		N/A
S3000S3E	Glass	Spherical	12 \pm 0.5	34 mean \pm 3	15 - 50	2.5		N/A
S3000S4	Glass	Spherical	16	43 mean \pm 5	20 - 60	2.8		N/A
S3000S5	Glass	Spherical	20	43 mean \pm 5	20 - 60	2.8		N/A
S5000S2	Glass	Spherical	8 min.	12 mean \pm 4	1 - 30	2.6		N/A
S5000S3	Glass	Spherical	12 \pm 0.5	12 mean \pm 4	1 - 30	2.7		N/A
SC325P17	Copper	Irregular	17 \pm 1	45	45 - 65	8.3	3.2	0.0006
SA270S20	Aluminium	Spherical	20	44	20 - 60	3.1	1.8	0.0007
SH230S33	Glass	Spherical	33	44	20 - 60	0.5		0.0028
SH400S33	Glass	Spherical	33	15	10 - 30	1.6		0.0017
SH400S20	Glass	Spherical	20	15	10 - 30	1.3		0.003
SM140F65	Mica	Flake	65	50	25 - 75	4.8		0.005
SF82TF8	Glass	Cylindrical	8	65	50 - 75	2.8		0.004
SC230F8	Copper	Flake	7.5	60	40 - 80	8.4		0.0012
SC140F19	Copper	Flake	18	100	60 - 150	8.9	1.06	0.001
SC500P18	Copper	Needle	17	22	10 - 30	9.0	1.6	0.0005
PI-1040	Aluminium	Sphere	-	40		3.4		
PI-2040	Aluminium	Sphere	-	40		3.5		